

KERR (N.)

THE  
HEREDITY OF ALCOHOL.

BY  
NORMAN KERR, M.D., F.L.S.

AND  
The Effects of Alcohol on Offspring.

BY  
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THE

HEREDITY OF ALCOHOL.

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THE most saddening, and perhaps the most serious, of the numerous evils inflicted by alcohol on human-kind is the hereditary transmission, both of the drink-crave itself, and of the pathological changes caused by indulgence in alcohol.

Physical disease, induced by habitual intemperance, is often transmitted. Alcoholic phthisis, for example, is a disease frequently imprinted on the constitution of the unborn babe (*fœtus in utero*). Some very painful cases of this hereditary infliction have recently come before me. Hereditary alcoholic rheumatism and hereditary alcoholic gout are constantly to be met with. I have had under my care a life-teetotaler, who has been repeatedly tormented by acute attacks of gout, though by his careful diet and mode of life he has disarmed the disease of half its terrors. He owes his besetting ailment to the alcoholic indulgence of his ancestors, and has inherited this legacy with the rest of the family property. In no other disease is the heredity of alcohol more marked. In Britain the proofs are everywhere around us.

Many other diseases produced by alcohol are the subject of transmission. Among the most characteristic are alcoholic cirrhosis, and alcoholic contracted kidney. In one painful case of the latter, under my own care, the patient had been a total abstainer for



nearly forty years, but he inherited the contracted kidney from an intemperate father.

The blood of the inebriate parent is so vitiated and his energies are so wasted, that even when there is a sober mother, the innocent progeny are often brought into existence puny, stunted, and debilitated. Body and brain having been insufficiently nourished, the vital powers of such infants are so defective that, in their earliest years, they are literally mowed down. In the causation of the terrible infantile mortality which is such a disgrace to English civilization, the drinking habits of the parent or parents have the largest share. Even when grown up to manhood, the constitutions of the offspring of intemperate parentage are frequently so enfeebled and impaired that they succumb to a premature death from their lack of recuperative power after the exhaustion, following some acute illness, which a tolerably vigorous system would have perfectly recovered from.

Alcoholic nervous and mental diseases are also handed down. Hereditary alcoholic epilepsy, for example, is by no means uncommon. Defective nerve power, enfeebled will, and a debilitated *morale*, form a favorite legacy from thoughtless inebriates to their helpless issue. The nerves of the dipsomaniac are shattered, while the bodily strength is undermined, and thus the family are liable to be mentally afflicted. Some of the circle, generally the daughters, may be nervous and hysterical; others, generally the sons, are apt to be feeble and eccentric, and to fall into insanity when any emergency calls for the display of unusual brain power. In one household, with a drunken father, two girls were hysterical, and the third was an imbecile; of the sons, the eldest was an

epileptic, the second died suddenly of alcoholic apoplexy, and the third was an idiot. In another family, burdened with the hereditary drink curse, the eldest daughter committed suicide, the second lost her reason and became quite demented, and the youngest was the incarnation of hysteria. The eldest son killed himself by poison through drink, and the younger is an apparently confirmed sot.

Absence of intellect from infancy, or idiocy, not unseldom follows of necessity from parental excess in alcohol. Dr. Howe, in his well-known Report on the State of Idiocy in Massachusetts, states that the habits of one or both parents of 300 idiots having been learned, 145 of these children, or nearly one-half, were found to be the progeny of habitual drunkards. Dr. Howe gives the case of one drunkard who was the parent of seven idiots. Dr. A. Mitchell, in his evidence before the Committee of the British House of Commons, said he was quite certain that the children of habitual drunkards were in larger proportion idiotic than other children; a belief shared in by M. Rousel, M. Taquet, Dr. Richardson, and a host of competent observers. At the recent meeting of the British Medical Association at Cambridge, Dr. Fletcher Beach, Medical Superintendent of the Darenth Asylum, reported that an analysis of 430 cases under his own care showed 31.6 per cent. of idiotic children to be the offspring of intemperate parents. In private practice the proofs of the influence of parental alcoholic excess in the generation of amentia are continually confronting me; and among my professional *confrères* there is no difference of opinion on the subject.

That the impairment of the bodily or mental facul-

ties arises from the intemperance of one or both heads of the family, is demonstrated by the healthfulness and intellectual vigor of children born while the parents were temperate, contrasted with the sickness and mental feebleness of their brothers and sisters born after the same parent or parents became intemperate. In one case there were first a son and daughter, both excellent specimens, mentally and physically, of vigorous humanity. After the birth of the daughter the father fell into habits of dissipation, and rapidly became an habitual drunkard. He had four children after his declension to insobriety. Of these, one was defective in mind, and the remainder were complete idiots.

There can be no reasonable doubt, in fine, that not the least painful and unavoidable effects of intemperance in alcohol are the physical and mental debility and disease it entails on posterity. Darwin, in "The Botanic Garden," in 1794, pointed out this fixed and immutable law. Nearly all the diseases springing from indulgence in distilled and fermented liquors are liable to become hereditary, and to descend to at least three or four generations, unless the hereditary tendency be starved out by uncompromising and persistent abstinence from all intoxicating drinks. This is no speculative theory, no visionary hypothesis. It is a well-grounded belief founded on accurate observation—a legitimate conclusion deduced from extended experience, and based on incontrovertible facts.

But the most distressing aspect of the heredity of alcohol is that the transmitted narcotic and insatiable craving for drink—the dipsomania of the physician—is every day becoming more and more prevalent. Probably this alarming increase in the alcoholic



heredity in England is owing, in great part, to the unmistakable increase of female intemperance amongst us.

Not long since I was called to a lady, sixty-three years of age, evidently dying. All that I was happily able to accomplish was, by the aid of powerful medicinal stimuli, to restore her failing consciousness for a few brief moments, while her spiritual adviser addressed to her a solemn exhortation. She was an habitual drunkard, getting drunk regularly every night, and when drunk she lost all sense of shame and decorum. She was a victim to the hereditary drink-crave. The only other members of her family, two sisters, were also hereditary dipsomaniacs. The one died in an asylum from insanity caused by drinking, and the other is so confirmed a drunkard that she has to be constantly watched.

The hereditary transmission of an innate proneness to excess in alcohol, of a special susceptibility to habitual and abandoned intemperance, has been recognized from the earliest times. Plato referred to the injurious effects of intemperance both on the parent and on the child. Plutarch wrote, "*Ebrii gignunt ebrios*"; and Aristotle taught that "drunken women bring forth children like unto themselves." The Parliamentary Committee of the British House of Commons, in 1834, in their Report on Intemperance, state that the evils of alcoholism "are cumulative in the amount of injury they inflict, as intemperate parents, according to high medical testimony, give a taint to their offspring before its birth, and the poisonous stream of ardent spirits is conveyed through the milk of the mother to the infant at the breast; so that the fountain of life, through which nature

supplies that pure and healthy nutriment of infancy, is poisoned at its very source, and a diseased and vitiated appetite is thus created, which grows with its growth, and strengthens with its increasing weakness and decay."

One more example which has come under my own professional observation, may be useful. A gentleman of position, sixty-four years of age, is an hereditary drunkard. So violent is he that his wife and family have had to leave him. One of his sisters (unmarried) is an imbecile through drinking. She has frequently tried to commit suicide, when drunk, by hanging, by poison, by jumping from a window, and by drowning. Her insanity has so suicidal a tendency that she can not be left for a moment alone—all the repeated efforts at self-destruction which I have just enumerated having been attempted while the attention of the attendant was withdrawn from her for a few seconds. She will do anything for drink—will beg, borrow, or steal, pawn everything she can lay her hands on, and even essay robbery with violence in the hope of obtaining money to gratify her morbid craving for alcohol. Another sister (married) is also an habitual drunkard, who gets into fits of ungovernable fury when in drink, and, being dangerous both to herself and others, is under restraint. Thus all the family are dipsomaniacs. The fatal legacy in this case was from both parents. The father shot himself when laboring under alcoholic mania, and the mother was an inveterate drunkard. The grandfather was also a confirmed inebriate.

Some are of opinion that when the father is addicted to drunkenness the girls are the most liable to be the subjects of hereditary alcoholism, and when



the mother is the culprit the sons are specially endowed with the family failing (*hérédité croisée*); but upon this point I can at present form no reliable opinion. That the female parent is the more general transmitter of the hereditary alcoholic taint I have little doubt. In a London prison, recently, female representatives of four different generations of one family were incarcerated, at the same time, for drunkenness or offenses connected therewith. In my own observation, the female members of several families, which suffered under the infliction of drunken mothers, have all, except those individuals who have become rigid teetotalers, lapsed into being hardened drunkards. In one case, the females of two successive generations, and in another case of three successive generations, have all formed an unbroken chain of reckless inebriates; and then all at once their successors in life have exhibited an utter loathing for alcohol in every shape and form. Apart from any outside temperance influences, an instinctive and irrepressible abhorrence is sometimes seen, simultaneously and of its own accord, in the children of the third or fourth generation of families formerly, apparently, helplessly and firmly bound by the iron fetters of the heredity of alcohol. The very extent of the evil seems to have worked out its own cure. The depths of misery and despair into which the relentless tyranny of alcohol has, by inheritance, plunged its victims, seem to have permeated their whole being with hatred of their enslaver, and to have inspired them with the determination to strike a blow for freedom, and, casting off forever the yoke of the oppressor,—

To burst the chains which drink forever flings  
On the entangled soul's aspiring wings.

The inherited drink-crave, where it exists, even when from the absence of temptation or from the strength of resolute will it has never been made manifest, is always latent, and ever ready to be lit up at the faintest alcoholic provocation. The smallest sip of the weakest form of fermented or distilled liquor has power to set in a blaze the hidden unhallowed fire. Persons ignorant of the inexorable law of heredity in alcohol, indiscriminately rebuke and denounce the vicious drunkard and the diseased dipsomaniac. But to medical experts it is as clear as is their own existence that there are multitudes of persons of both sexes and in all positions in life, who, though they may never have yielded to the enticements around them, are yet branded with the red-hot iron of alcoholic heredity. There is no nobler sight on earth than the triumph of such weighted ones over their lurking and implacable foe—a foe the more terrible that it lies concealed within their own bosom. The only safety for all such lies in entire and unconditional abstinence from all alcoholic drinks. Such must shun all the alcohols. Every fermented and distilled liquor is their enemy. Though added horrors, such as delirium tremens, may be heaped up by a resort to impure spirits and the heavier alcohols, the purest ethylic alcohol, or the weakest and most delicate fermented wine, is strong enough to awaken the dormant appetite, and provoke a thirst too often, alas! quenched only in death. Whatever their station or their accomplishments, the subjects of the inherited drink-crave can abstain or can drink to excess, but drink moderately they can not. If, in a state of consciousness, they taste an alcoholic beverage at all, whether on the

plea of sickness at the prescription of a physician, or on the plea of religion at the exhortation of a priest, they are in imminent danger. Their whole system is, as it were, set on fire. Unless happily enabled to master the glant appetite in the very first moment of its reawakened life, they are truly taken possession of by a physical demon, a demon easily raised, but once raised, almost beyond the power of even a Hercules to slay.

To prevent misapprehension, it is as well here to state that all the evil resulting from hereditary alcoholism may be transmitted by parents who have never been noted for their drunkenness. Long continued habitual excessive indulgence in intoxicating drinks to an extent far short of pronounced intoxication, is not only sufficient to originate and hand down the morbid tendency, but is much more likely to do so than even oft-repeated drunken outbreaks with intervals of perfect sobriety between.

In what consists these influences of the alcoholism of parents upon the constitutions of their children? The mother probably is the more potent factor in the transmission. She exerts an influence, not only equally with the father in the conception, but, in addition, during the whole period of the utero-gestation, wields a special influence on the unborn child. Exact records are wanting, but I have remarked a preponderance of the maternal influence in the causation of alcoholic heredity in many cases in family practice.

Alcoholism seems to impair the vital properties of the fertilizing material, and thus from the very beginning the child of one or two intemperate parents is burdened with an inherited constitutional idiosyn-



crasy. Then the depraved moral sense is transmitted, just as are other hereditary mental and moral defects. When the heredity is from the mother, it seems to me that it arises mainly from the defective nutrition of the nervous centers of the cerebral and spinal substance, during the entire uterine career. The continued action of nervine stimulants modifies the nutrition of the nervous system, and it is this acquired perversion of the normal nutrition of the nervous system which is conveyed from parent to child, and constitutes heredity in alcohol.

The nerve cells are built up and kept in adequate repair by the nutritive plasma from the blood. This process is essentially a healthy function, the health of the mind as well as of the body depending on the proper nutrition, growth, and repair of the cells. By taking alcohol (whether the less poisonous, as the ethylic, or the more poisonous, as the butylic or amylic), we cause the blood plasma to convey to the cells an irritant narcotic poison, instead of a bland nutritious substance, we stimulate the cells to a rate of waste too rapid for efficient renewal, and thus set up a depraved diseased condition.

Alcohol disturbs the balance of the mental powers. Its action is to destroy the equilibrium of the organic functions of the mind, and by this interference it brings about undue depression of some of the functions, and undue exaltation of others. This abnormal mental unsteadiness produces in the children of such parents a badly-balanced and weakly condition of the brain and whole nervous system as well as of the moral faculties, and thus both the mind and body of the offspring of parents, whose mental and physical being is steeped in alcohol, are predisposed to take a

diseased action. A crowd of nervous disorders is the inevitable outcome. The mortality among children so afflicted is enormous, and when they survive the period of childhood, epilepsy, apoplexy, cerebral and meningeal disease and insanity, work sad havoc with the survivors.

The hereditary of alcohol is now beyond dispute. It is no mere dream of an abstemious enthusiast, but the operation of a natural law ; no fanciful creation of a nephalian brain, but an acknowledged fact. Men and women on whom this dread inheritance has been forced without their consent are everywhere around us, bravely struggling to lead a pure and sober life ; and would it not be but an act of justice to make every church, every home, and every land safe for all such afflicted ones by the expulsion of all intoxicating beverages from our sacred services, from our social gathering, and from within our borders ? Equity and fairness demand this at our hands in the interest and the rights of each hereditary legatee of alcohol ; for of all such it may with truth be said, in the language of Shakespeare :

"So oft it chanceth in particular man,  
That, for some vicious mole of nature in them,—  
As in their birth (wherein they are not guilty,  
Since Nature can not choose its origin)  
By the o'ergrowth of some complexion,  
Out breaking through the peace and ports of reason,  
. . . . . that these men  
Carrying, I say, the stamp of one defect,  
Being Nature's livery or Fortune's star,  
(Their virtues else be they as pure as grace,  
As infinite as man may undergo)  
Shall in the general censure, take corruption  
From that particular fault."

"Hereditary Alcoholism is an undeniable fact."—*Dr. Lunier, of Paris, at the Brussels Congress.*

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"Alcoholism strikes man not only in his own person, but also in his descendants. The children of the alcoholic parent are stamped, as it were, with a fatal sign that seals their doom and death in an early age."—*Dr. Lunier, of the French Medico-Psychological Society.*

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"Cases of hysteria observed in men are cases of ab-sinthism transmitted by heredity."—*M. Lanceraux.*

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"Diseases arising from drinking spirituous or fermented liquors are liable to become hereditary."—*Erasmus Darwin, M.D., F.R.S.*

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"One sees alcohol follow the individual in his offspring."—*M. Rousel.*

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"Of many manifestations of alcoholic heredity epilepsy is the most common."—*M. Taquet.*



# THE EFFECTS OF ALCOHOL ON OFFSPRING.

BY NATHAN ALLEN, M.D.

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WHEN Jehovah issued His commands in the Decalogue, not only to the Israelites, but to His creatures in all coming time, saying, "I, the Lord thy God, am a jealous God, visiting the iniquity of the fathers upon the children, unto the third and fourth generations," it was intended that there should be some meaning in that visitation. When the laws of the human system are correctly and fully understood, it will be seen that this ordinance is not all a dead letter. In the execution of the above decree, whatever divine influences or agencies may be brought into operation in other respects, it is positively certain that, by the fixed laws of hereditary descent, the iniquities of the fathers are visited upon the children unto the second, third, and fourth generations. The term "iniquity," as here used, has a broad signification, including the consequences or penalties, of each and every violated law, whether that law be expressed in the revealed command of God, or stamped by the same almighty power upon the human constitution.

It is proposed to consider, in the present paper, only one of the ways in which the above law of God is violated or infringed, and point out some of the consequences resulting from its violation. In this

discussion it is assumed, that man was endowed at his creation with certain great laws, physical and mental, which, in order to secure the highest objects of his existence, must be obeyed. As one agent having a powerful influence upon these laws, what relation, then, does alcohol sustain to the human system, and what are some of its more permanent effects?

First, then, what is alcohol? By this term it is intended to include the property in all drinks that *intoxicates*, whether found in brandy, gin, wine, whisky, or even in beer or cider; for it is the *intoxicating* property that gives these drinks their significance and makes them attractive.

Alcohol is an artificial product, obtained by fermentation, and is never found in a simple state. It is a *poison*, both in its nature and effects; is pronounced as such by the highest authorities, and proved to be such by the tests of chemistry, as well as of physiology. Alcohol, unadulterated, is a *pure* poison, and though taken into the system in a diluted state without at first apparently any injurious effects, it is still a poison, and does the work of a poisonous agent.

All standard books on poisons—of which Christison's is, perhaps, the highest authority—represents alcohol as a poison. Says Christison: "It constitutes a powerful narcotic poison." Carpenter, author of the best work on Physiology extant, says that alcohol "is a dangerous poison." All standard works upon chemistry classify it among the poisons. The best writers on Materia Medica describe alcohol as a poison. Pereira, perhaps the most distinguished among these writers, calls it both "an irritant and fatal poison." The French, and the British, and the

American Dispensatories—high authorities everywhere in such matters—describe alcohol as a “powerful irritant poison, rapidly causing intoxication and, in large quantities, death.” Medical dictionaries say the same thing; in fact, all standard writers on the subject agree in this description. But, to be more direct and practical, what are *the effects* of alcohol upon the human system? Is it a genuine poison by this test?

First, then, the use of alcohol irritates and inflames the mucous membrane of the stomach to such an extent that it gradually becomes thickened and corrugated—sometimes scirrhus and cancerated, or softened and disorganized. It vitiates the gastric juice, or destroys the glands secreting it, thereby preventing the healthy digestion of food. Thus, by changing the structure and proper action of the stomach, not only the natural appetite is supplanted or rendered morbid, but the blood itself, the great supporter of life, is impoverished, and becomes tainted or impregnated with qualities very unwholesome and injurious. As a consequence of this change in the blood, both the structure and functions of other organs in the body become changed or deranged in action. The liver is enlarged or shriveled up—is pale, fatty, scirrhus, cancerous, etc., so that the bile, its natural secretion, is changed, which prevents the proper assimilation of food, and interferes also with the healthy action of the bowels. The kidneys, at times, become affected, resulting in serious derangement or disease of these organs.

By this deprivation of blood, the fibrous and muscular tissues of the whole body frequently become softened and relaxed, so that the constitution loses



in a great measure, its stamina and vitality. This is indicated by a state of general debility, by a peculiar paleness of the countenance, and by a kind of bloated appearance of the whole system.

Again, alcohol impairs the healthy action of both the heart and the lungs—first, by causing an unnatural circulation of blood through these organs; and, secondly, the strength or power of these most influential organs is more or less reduced by the poor quality or the nutrition supplied to them. Certain diseases of both the heart and the lungs have been traced repeatedly to these two sources.

But the brain, the most important part of the body, is more unfavorably affected by alcohol than any other organ, and that, too, in a variety of ways. It tends directly to produce an unnatural stimulus of the brain, as well as an abnormal state of mind, which, together with impoverished nutrition, serves to weaken or derange it. As the brain is a complex instrument, composed of a variety of parts, performing distinct functions, the effects of alcohol are very much diversified. In persons possessing a predominance of the nervous temperament it produces an unnatural excitement, a peculiar irritability, and sometimes moroseness of disposition; but where there is a deficient intellectual development, the individual is frequently silly, boisterous, and passionate, without any occasion or good reason.

In cases where the lymphatic or sanguine temperament predominates, the effects of alcohol are frequently exhibited by a grossness of manner, a sensuality of feeling, and an excessive activity of the animal propensities. There are two important considerations in the relation which this powerful agent

sustains to the brain. First, on account, relatively, of the large development of organs in the lower part of the brain, and the immediate connection of their functions with those of the body, alcohol acts more particularly upon the animal propensities, and serves to develop more and more the lowest part of man's nature. Secondly, at the same time as that portion of the brain by which it is understood the moral sentiments and the intellectual faculties are manifested, constitutes, relatively, as small development and is located farthest from the trunk of the body, these higher faculties, in the lover of intoxicating drinks, are not called into exercise so much, and therefore do not gain strength and influence in proportion to the lower faculties of his nature. Consequently, the desire and ability for seeking a higher, a nobler, and purer life, grow weaker and weaker, and the tendency *downward* stronger and stronger.

There are a few great general facts established by experience, observation, and actual statistics, showing the effects of alcohol upon the human system :

1. It is well known that this poison is productive of certain diseases, and that there is always much more sickness among those accustomed to its use, and neither skillful treatment nor good nursing nor hygienic influences relieve such persons as they do the sick who are not in the habit of using it.

2. The rate of mortality has been ascertained, both in Europe and in our own country, to be greater with this class, so much so that some insurance companies will not receive applications for life insurance from such persons on as favorable terms as from other parties.

3. It is also established by statistics that about one-

quarter of all the insanity existing is caused, either directly or indirectly, by alcoholic drinks.

4. More than one-half—to say the least—of all the inmates in criminal, reformatory, and pauper institutions have had their systems, physical and mental, injured more or less by this poison, and to this source, more than to any or all others combined, may be attributed their relegation to these places of confinement, dependence, and degradation.

Now, if alcohol, as these facts indicate, has such a powerful influence over human organization and destiny, what agency does it have or perform in respect to the *preservation* and *propagation* of the species? A correct and complete answer to this inquiry is, we need not say, one of vast importance. What, then, is the law of human increase, and *how* or in *what way* does this poison violate it? This law of increase is one of the great fundamental laws or first principles incorporated into the very nature of man at his creation. When he came from the hands of his Maker, with a perfect organization—which was pronounced “very good”—he was commanded to “be fruitful and multiply, and replenish the earth.” And, notwithstanding by a course of disobedience and rebellion he lost the moral image and likeness of his Creator, as well as that harmony and perfection of physical organization with which he was created, *that law of increase still remains*, and is based upon the same great physiological standard. Without attempting here to explain the nature and foundation of this law, or present the various evidences in proof of it, together with the conditions of its application, we proceed to point out one of its conditions, which is all that is really essential for our present purpose—that is the law of *heredity*.



This law of hereditary descent is one of the most important laws imposed upon our race, or that has been developed in its history, though, unfortunately, it is not generally understood. The most profound physiologists in all ages have maintained that in some sense there was such a connection between the parent and child, as to show a likeness or resemblance, and the best judgment or the good sense of the common mind has generally admitted the same fact. But the proverb that "like begets like" has a far more extended application than what has generally been conceived. It does not refer merely to the size and form of the body, the features of the countenance, the complexion of the skin, and the strength of the system, but extends to the minutest parts of all the organs and their functions, whether external or internal. Did our present limits permit, a long list of distinguished names, together with a great mass of evidence, might be adduced in proof of this statement, but the testimony of only two or three writers must suffice. Says Dr. James Copeland, one of the highest authorities in all physiological or medical matters in Great Britain. "It is generally observed that the constitution, the temperament, and diathesis of the offspring closely resemble the parent; and that whatever disposition to disorder, whether of structure or function, the latter may have possessed, it is liable to evince itself in the former." Sir Henry Holland says: "If peculiarities of external form and feature tend speedily to become hereditary, affecting, as we see on every side, not families alone, but, by intermixture and descent, whole races of mankind, we have no doubt that deviations of internal structure (whether they be of deficiency or excess or of any other nature)

are similarly transmitted and, with them, the propensities to, or conditions of, morbid action in the parts thus organized." The writings of Owen, Huxley, and Darwin corroborate fully these statements.

Let us now make an application of this law of hereditary descent in cases of alcoholic poison; and, first, what is the testimony of competent witnesses upon the subject? Says Aristotle, "Drunken women bring forth children like unto themselves"; and Plutarch writes that "one drunkard begets another." Shakespeare, Burton, and others make similar statements.

Dr. Caldwell, the most distinguished writer on physiological subjects in this country, says: "By habits of intemperance parents not only degrade and ruin themselves, but transmit the elements of like degradation and ruin to their posterity." In a "Report to the Massachusetts Legislature on Idiocy," Dr. S. G. Howe says: "The habits of the parents of three hundred of the idiots were learned, and one hundred and forty-five, or nearly one-half, were reported as known to be habitual drunkards."

Dr. Brown, a well-known English writer on insanity, says: "The drunkard not only enfeebles and weakens his own nervous system, but entails mental disease upon his family." The author of an elaborate article in the eighth volume of *The British Psychological Journal*, in describing a class of persons fond of intoxicating drinks, says: "They are the offspring of persons who have indulged in stimulants, or who have weakened the cerebral organization by vicious habits."

Mr. Darwin says: "It is remarkable that all the diseases arising from drinking spirituous or fermented liquors are liable to become hereditary, even to the third generation, increasing, if the cause be continued, till the family becomes extinct."

Dr. Elam, a London physician, in a recent work upon *Physical Degeneracy*, writes of the effects of alcohol as follows: "All this, fearful as it is, would be of trifling importance did the punishment descend only on the individual concerned and terminate there. Unfortunately this is not so, for there is no phase of humanity in which hereditary influence is so marked and characteristic as in this. The children unquestionably do suffer for or from the sins of the parent, even unto untold generations. And thus the evil spreads from the individual to the family, from the family to the community, and to the population at large, which is endangered in its highest interests by the presence and contract of a 'morbid variety' in its midst."

The history of four generations of a family as sketched by M. Morel, a distinguished French writer, is full of instruction in this matter, which is as follows:

"*First Generation.*—The father was an habitual drunkard, and was killed in a public house brawl.

"*Second Generation.*—The son inherited his father's habits, which gave rise to attacks of mania, terminating in paralysis and death.

"*Third Generation.*—The grandson was strictly sober, but was full of hypochondriacal and imaginary fears of persecution, etc., and had homicidal tendencies.

"*Fourth Generation.*—The fourth in descent had very limited intelligence, and had an attack of madness when sixteen years old, terminating in stupidity, nearly amounting to idiocy. With him the family probably became extinct. And thus we perceive the persistence of the taint in the fact that a generation of absolute temperance will not avert the fatal issue."

Examples similar to the above, if not so marked, can be found in every community by careful inquiry.

As very little investigation has been made in respect to the hereditary effects of intemperance, we will here give the testimony of two individuals who have had the best possible opportunities, and have

pushed their inquiries further than any others in our country.

Dr. Turner, in his "Second Annual Report of the New York State Inebriate Asylum," the largest institution of the kind in the world, states that "out of fourteen hundred and six cases of delirium tremens which had come under his observation, nine hundred and eighty had an inebriate parent or grandparent, or both. He believes that, if the history of each patient's ancestors were known, it would be found that eight out of ten of them were free users of alcoholic drinks.

O. S. Fowler, who for nearly forty years has been constantly making examinations into the organization and character of thousands and tens of thousands, and whose observation in this field of inquiry have been far more extensive than any other living man, bears positive and manifold testimony in his works upon this subject. Says Mr. Fowler: "Few children of drinking parents can be found who do not at times experience a hankering not only after strong drink, but often the very *kind* of liquor preferred by such parent, and a great majority of our inveterate drinkers will be found to have had parents who loved and drank the creature, though they may have never been dead drunk. Intemperance in parents impairs the grain or texture of the brain, and thereby deteriorates the general tone of character and cast of mind of their children. All alcoholics stimulate the selfish propensities more, relatively, than the moral sentiments and the intellect, and, by rendering parents more gross and animal, it similarly depreciates their offspring."

The change here referred to, produced in the organization and character by intoxicating drinks, is one of vast importance. Probably no two things could injure or drag down the character of a young person as a depreciated quality of texture or brain, and a relative preponderance of animal development over the intellectual and moral.

In this transmission of qualities there are other



features and circumstances deserving notice. It is maintained by high authority that this alcoholic poison is transmitted in the blood—that in this way it permeates the whole system, causing not only a want of vitality and strength generally, but rendering particular organs more especially liable to certain diseases.

It is maintained by some that this transmission consists, more particularly, in an increased activity and development of a certain portion of the brain as a distinct organ, or as part of the organ of Alimentiveness, and many facts have been adduced in proof of this theory.

Again, it is found that this predisposition to drink does not show itself till the person arrives at a certain period in life, and then that the craving for drink is almost irresistible. In fact, all constitutional or hereditary predispositions are always far more difficult to arrest and change than acquired habits. Thus, it has been found very hard, and in some cases almost impossible, to reform inebriates who have inherited such predisposition.

But this inherent fondness for liquor is not the only evil transmitted. The whole physical system is more or less involved. The blood itself is tainted. There is not that soundness, vitality, and strength in such an organization that there would be but for this poison. Such a constitution will not bear exposure so well; it is more liable to certain diseases, it will yield more readily to inflammation, and, when diseased, it is not so easily relieved or cured by medical treatment. Whatever, therefore, may be the peculiar feature of this transmission, one thing is certain—the whole tendency is *downward, physically, mentally, and morally*, not only by injuring the constitution itself, but by increasing the power and influence of the animal propensities at the expense of the reason, the conscience, and the will.

It may be said that the sketch here given of the effects of alcohol applies only to the worst cases of drunkenness, but that *moderate* drinking is safe and

leads to no such results. But who can limit or graduate safely the *effects of a poison*? A small dose may injure one person far more than a much larger quantity would injure another individual. Then, who can tell but that the least quantity taken may expend all its force in this very direction of offspring? Besides, is *moderate drinking itself* safe? Does not all experience prove that such a habit is very liable to grow worse, and in time become ungovernable?

Connected with this law of heredity, a very important question arises: What is man's *free agency* and *accountability* in the matter? According to the theory of Malthus and some other writers on population, man is considered rather as a *passive agent*, exercising but little power or influence, physiologically, over the disposition, talent, and character of offspring. But modern science is teaching us every day that there is a most intimate, direct, and legitimate connection between the parent and the child.

It behooves every man (and woman) then, above all things to understand correctly the nature of this connection, and to take into account fully his own responsibility in the matter; for by his own nature he is created a free moral agent, and should, in the most important acts of his life, be guided certainly by the highest possible intelligence, as well as by the purest motives, since, by the laws of hereditary descent, he has, in a great measure, the character and destiny of his offspring, either for "*weal or woe*," under his control. If neither his own intelligence nor conscience will guide him, nor the moral sense of the public aid him, an enlightened posterity will yet hold him to a strict account. It could not have been the design of the Almighty, that man should always remain ignorant of the most important law in the universe, as it respects human progress and welfare. And the great Temperance Reform can receive no greater aid than a more general diffusion of the knowledge of the laws and principles which it has been the object of this essay to elucidate and enforce.

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